

## **AMENDMENTS TO THE SPECIFICATION:**

Please amend the specification as follows:

1) Please amend the specification beginning on page 5, line 3, and ending on page 8, line 14 as follows:

In order to achieve the above object, according to the first aspect of the present invention, there is provided a CCD pulse generator comprising a digital delay type CCD reset signal generating section which finely delays a transfer signal for driving a CCD, thereby generating a plurality of delay signals, and changes selection of the plurality of delay signals, thereby generating a CCD reset signal corresponding to set rise and fall timings, ~~a turned-over/untuned-over~~ an inverted/non-inverted signal generating section which generates ~~a turned-over~~ an inverted signal and ~~an untuned-over~~ a non-inverted signal of the CCD reset signal, a selection section which selects the ~~turned-over~~ inverted signal and the ~~untuned-over~~ non-inverted signal of the CCD reset signal, a blanking section which temporarily disables the CCD reset signal, an output section which has an output enable function and outputs the signal selected by the selection section, and an output signal condition setting section which sets pieces of condition setting information that determine the operations of the respective sections.

In order to achieve the above object, according to the second aspect of the present invention, there is provided a CCD pulse generator comprising a digital delay type CCD clamp signal generating section which finely delays a transfer signal for driving a CCD, thereby generating a plurality of delay signals, and changes selection of the plurality of delay signals, thereby generating a CCD clamp signal corresponding to set rise and fall timings, ~~a turned-over/untuned-over~~ an inverted/non-inverted signal

generating section which generates ~~a turned-over~~ an inverted signal and ~~an unturned-over~~ a non-inverted signal of the CCD clamp signal, a selection section which selects the ~~turned-over~~ inverted signal and the ~~unturned-over~~ non-inverted signal of the CCD clamp signal, a blanking section which temporarily disables the CCD clamp signal, an output section which has an output enable function and outputs the signal selected by the selection section, and an output signal condition setting section which sets pieces of condition setting information that determine the operations of the respective sections.

In order to achieve the above object, according to the third aspect of the present invention, there is provided a CCD pulse generator comprising a digital delay type CCD spare signal generating section which finely delays a transfer signal for driving a CCD, thereby generating a plurality of delay signals, and changes selection of the plurality of delay signals, thereby generating a CCD spare signal corresponding to set rise and fall timings, ~~a turned-over/unturned-over~~ an inverted/non-inverted signal generating section which generates ~~a turned-over~~ an inverted signal and ~~an unturned-over~~ a non-inverted signal of the CCD spare signal, a selection section which selects the ~~turned-over~~ inverted signal and the ~~unturned-over~~ non-inverted signal of the CCD spare signal, a blanking section which temporarily disables the CCD spare signal, an output section which has an output enable function and outputs the signal selected by the selection section, and an output signal condition setting section which sets pieces of condition setting information that determine the operations of the respective sections.

In order to achieve the above object, according to the fourth aspect of the present invention, there is provided a CCD pulse generator comprising a digital delay type sampling signal generating section which finely delays a transfer signal for driving

a CCD, thereby generating a plurality of delay signals, and changes selection of the plurality of delay signals, thereby generating a sampling signal for sampling a CCD output in synchronism with set rise and fall timings, ~~a turned-over/unturned-over~~ an inverted/non-inverted signal generating section which generates ~~a turned-over~~ an inverted signal and ~~an unturned-over~~ a non-inverted signal of the sampling signal, a selection section which selects the ~~turned-over~~ inverted signal and the ~~unturned-over~~ non-inverted signal of the sampling signal, an output section which has an output enable function and outputs the signal selected by the selection section, and an output signal condition setting section which sets pieces of condition setting information that determine the operations of the respective sections.

In order to achieve the above object, according to the fifth aspect of the present invention, there is provided a CCD pulse generator comprising a digital delay type CCD spare signal generating section which finely delays a transfer signal for driving a CCD., thereby generating a plurality of delay signals, and changes selection of the plurality of delay signals, thereby generating another CCD spare signal corresponding to set rise and fall timings, ~~a turned-over/unturned-over~~ an inverted/non-inverted signal generating section which generates ~~a turned-over~~ an inverted signal and ~~an unturned-over~~ a non-inverted signal of the CCD spare signal, a selection section which selects the ~~turned-over~~ inverted signal and the ~~unturned-over~~ non-inverted signal of the CCD spare signal, an output section which has an output enable function and outputs the signal selected by the selection section, and an output signal condition setting section which sets pieces of condition setting information that determine the operations of the respective sections.

2) Please amend the paragraph beginning on page 13, line 20, and ending on page 14, line 15 as follows:

The pulse generator 110 comprises building components 111 to 118e. The clock generating section 111 generates as a reference clock the transfer signal  $S_T$  used for charge transfer of the CCD 130. The output signal condition setting section 113 sets pieces of condition setting information which determine the operations of the respective sections in the pulse generator 110. The pulse control sections 114a to 114e of the digital delay type finely delay the transfer signal  $S_T$  for driving the CCD, thereby generating a plurality of delay signals, and change selection of these delay signals, thereby generating signals corresponding to set rise and fall timings. The ~~turnover~~ inverting sections 115a to 115e generate ~~turned-over~~ inverted signals and ~~untuned-over~~ non-inverted signals of outputs from the digital delay type pulse control sections 114a to 114e. The selection sections 116a to 116e select outputs (~~turned-over~~ inverted signals and ~~untuned-over~~ non-inverted signals) from the ~~turnover~~ inverting sections 115a to 115e. The blanking sections 117a to 117c temporarily blank (temporarily stop) the selection results of the selection sections 116a to 116c. The output sections 118a to 118

e output outputs from the blanking sections 117a to 117c or the selection sections 116d and 116e via output enable functions.

3) Please amend the paragraph beginning on page 15, line 21, and ending on page 15, line 27 as follows:

Fig. 2 is a block diagram showing the internal arrangement of the digital delay type pulse control section 114a and a partial arrangement representing the relationship between the output signal condition setting section 113 and the ~~turnover~~ inverting section 115a to output section 118a. The same arrangement also applies to the digital delay type pulse control sections 114b to 114e.

4) Please amend the paragraph beginning on page 19, line 16, and ending on page 20, line 1 as follows:

The ~~turned-over~~ inverted signal and ~~untuned-over~~ non-inverted signal of the CCD reset signal  $S_R$  that are generated by the ~~turnover~~ inverting section 115a are selected by the selection section 116a in accordance with settings from the output signal condition setting section 113. The CCD reset signal  $S_R$  is temporarily disabled by the blanking section 117a in accordance with the settings of the output signal condition setting section 113. The reset signal  $S_R$  is output from the output section 118a via the output enable function under the control of the output signal condition setting section 113. Pieces of condition setting information which determine these operations are set by the output signal condition setting section 113.

5) Please amend the paragraph beginning on page 20, line 14, and ending on page 20, line 26 as follows:

The ~~turned-over~~ inverted signal and ~~untuned-over~~ non-inverted signal of the CCD clamp signal  $S_C$  that are generated by the ~~turnover~~ inverting section 115b are selected by the selection section 116b in accordance with settings from the output signal condition setting section 113. The CCD clamp signal  $S_C$  is temporarily disabled by the blanking section 117b in accordance with the settings of the output signal condition setting section 113. The clamp signal  $S_C$  is output from the output section 118b via the output enable function under the control of the output signal condition setting section 113. Pieces of condition setting information which determine these operations are set by the output signal condition setting section 113.

6) Please amend the paragraph beginning on page 21, line 13, and ending on page 21, line 25 as follows:

The ~~turned-over~~ inverted signal and ~~untuned-over~~ non-inverted signal of the CCD spare signal  $S_{\#1}$  that are generated by the ~~turnover~~ inverting section 115c are selected by the selection section 116c in accordance with settings from the output signal condition setting section 113. The CCD spare signal  $S_{\#1}$  is temporarily disabled by the blanking section 117c in accordance with the settings of the output signal condition setting section 113. The spare signal  $S_{\#1}$  is output from the output section 118c via the output enable function under the control of the output signal condition setting section 113. Pieces of condition setting information which determine these operations are set by the output signal condition setting section 113.

7) Please amend the paragraph beginning on page 22, line 11, and ending on page 22, line 20 as follows:

The ~~turned-over~~ inverted signal and ~~untuned-over~~ non-inverted signal of the CCD sampling signal  $S_s$  that are generated by the ~~turnover~~ inverting section 115d are selected by the selection section 116d in accordance with settings from the output signal condition setting section 113. The sampling signal  $S_s$  is output from the output section 118d via the output enable function under the control of the output signal condition setting section 113. Pieces of condition setting information which determine these operations are set by the output signal condition setting section 113.

8) Please amend the paragraph beginning on page 23, line 7, and ending on page 23, line 16 as follows:

The ~~turned-over~~ inverted signal and ~~untuned-over~~ non-inverted signal of the CCD spare signal  $S_{\#2}$  that are generated by the ~~turnover~~ inverting section 115e are selected by the selection section 116e in accordance with settings from the output signal condition setting section 113. The spare signal  $S_{\#2}$  is output from the output section 118e via the output enable function under the control of the output signal condition setting section 113. Pieces of condition setting information which determine these operations are set by the output signal condition setting section 113.